Art of Electronics
Exercise Solutions Chapter 1

About

This is my personal solutions to exercises from the book Art of Electronics Third Edition.

Resistors

1. Assume a 5k and a 10k resistor.
   (a) The combined resistance if connecting these resistors in series is calculated by adding the resistances.

$$R = R_{5k} + R_{10k} = 5k + 10k = 15k$$

   (b) The combined resistance if connecting these resistors in parallel can calculated in two different ways.

$$R = \frac{R_{5k} \times R_{10k}}{R_{5k} + R_{10k}} = \frac{5k \times 1k}{5k + 10k} = 3.3k$$

$$R = \frac{1}{\frac{1}{R_{5k}} + \frac{1}{R_{10k}}} = \frac{1}{\frac{1}{5k} + \frac{1}{10k}} = \frac{1k}{0.2 + 0.1} = 3.3k$$